

12:11:10

7-7-03

76

In the claims

Sub  
X  
B

1.(Currently amended) Apparatus for providing a point to point digital subscriber line communication service over a point to point subscriber line from a line termination equipment disposed at a central station to a subscriber terminal, wherein the line termination equipment and the subscriber terminal incorporate respective first and second management systems arranged to control and supervise said digital subscriber line communication service via messaging therebetween carried in an engineering operations channel over the line, and wherein the line termination equipment and the subscriber terminal incorporate means for providing said engineering operations channel in the form of a sequence of asynchronous minicells over the line, ~~wherein said engineering operations channel is framed and byte oriented and is scrambled over the line and wherein packet voice traffic is carried in spare capacity in said engineering operations channel, and wherein the line termination equipment and the subscriber terminal further comprise synchronisation means wherein the synchronisation occurs during a period of transmission of null data on said engineering operations channel.~~

2. (Currently amended) A digital communications system, comprising a subscriber network termination, a line termination equipment, and a point to point transmission path therebetween, the subscriber termination and the line termination being coupled to the path via respective first and second modems, wherein the subscriber termination and the line termination each incorporate respectively a first and second management system each system consisting of a corresponding plurality of management levels, said first and second management systems being arranged to control and supervise a digital subscriber line communication service via messaging carried in an engineering operations channel over the ~~path line~~, wherein said subscriber termination and the line termination each incorporate respective multiplexer means interfacing with the management levels of that termination, and wherein said subscriber termination and line termination incorporate respective packet transaction means each interfacing with the respective multiplexer means for carrying messaging between corresponding subscriber termination and line termination management levels in an engineering operations channel over the path, said engineering operations channel being comprised by a sequence of asynchronous minicells over the path ~~wherein said engineering operations channel is framed and byte oriented and wherein packet voice~~

~~traffic is carried in spare capacity in said engineering operations channel, and wherein the line termination equipment and the subscriber terminal each further comprise scrambling and descrambling means; and~~

~~synchronisation means wherein the synchronisation occurs during a period of transmission of null data on said engineering operations channel.~~

R1.126  
DC  
Amul.  
3. (reinstated - former claim #3) A digital communication system as claimed in claim 2, wherein said subscriber termination and line termination each incorporate scrambling and descrambling means.

4. (Currently amended) A digital communication system as claimed in claim 2 14, wherein said line termination equipment is coupled to an ATM backplane whereby the digital service is delivered.

5. (Original) A digital communication system as claimed in claim 4, wherein said line comprises a twisted conductor pair.

6. (Currently amended) A digital subscriber network termination for receiving a point to point digital subscriber line service over a point to point subscriber line coupled thereto, the subscriber termination including a management system consisting of a plurality of management levels, said a first and second management system being arranged to control and supervise said digital subscriber line communication service via messaging carried in an engineering operations channel over the line, multiplexer means interfacing with the management levels of the subscriber termination, and packet transaction means interfacing with the multiplexer means for carrying messaging to and from the management levels in an engineering operations channel over the line, said engineering operations channel being comprised by a sequence of asynchronous minicells over the line ~~wherein said engineering operations channel is framed and byte oriented and wherein packet voice traffic is carried in spare capacity in said engineering operations channel, and wherein the line termination equipment and the subscriber terminal each further comprise scrambling and descrambling means; and~~

~~synchronisation means wherein the synchronisation occurs during a period of transmission of null data on said engineering operations channel.~~

7. (Currently amended) A method of providing a digital subscriber line communication service over a digital subscriber link over a point to point line from a line termination equipment disposed at a central station to a subscriber terminal, the method comprising providing an engineering operations channel for effecting control and management of the subscriber terminal and transporting said engineering operations channel in a sequence of asynchronous minicells over the line, ~~wherein said engineering operations channel is framed and byte oriented and is scrambled over the line and wherein packet voice traffic is carried in spare capacity in said engineering operations channel; and~~ performing synchronisation between the central station and the subscriber terminal during a period of transmission of null data on said engineering operations channel.

<sup>8</sup>  
~~8.~~ (Reinstated - former claim #8) A method as claimed in claim 7, wherein packet voice traffic is carried in spare capacity in said engineering operations channel.

<sup>9</sup>  
~~9.~~ (Reinstated - former claim #9) A method as claimed in claim <sup>8</sup>~~15~~, wherein the engineering operations channel is framed and byte oriented.

<sup>10</sup>  
~~10.~~ (Reinstated - former claim #10) A method as claimed in claim <sup>9</sup>~~16~~, wherein the engineering operations channel is scrambled over the line

<sup>11</sup>  
~~11.~~ (Reinstated - former claim #11) A method as claimed in claim <sup>10</sup>~~17~~, wherein synchronisation between the central station and the subscriber terminal is performed during a period of transmission of null data on said engineering operations channel.

12. (Currently amended) A method of transporting digital subscriber line traffic over a digital subscriber link over a point to point line from a central station to a subscriber terminal, the method comprising providing an engineering operations channel over the line, wherein said engineering operations channel is transported over said line in asynchronous minicells ~~and said engineering operations channel is framed and byte oriented and is scrambled over the~~

~~line and wherein packet voice traffic is carried in spare capacity in said engineering operations channel; and  
performing synchronisation between the central station and the subscriber terminal during a period of transmission of null data on said engineering operations channel.~~

13. (Currently amended) A method of controlling a point to point digital subscriber line communications system comprising a subscriber network termination, a line termination equipment, and a point to point transmission path therebetween, the subscriber termination and the line termination each incorporating respectively a first and second management system each system consisting of a corresponding plurality of management levels, said first and second management systems being arranged to control and supervise said digital subscriber line communication service, the method comprising providing messaging paths between corresponding management levels, and multiplexing said messaging paths into an engineering operations channel over the line, and wherein said engineering operations channel is transported in a sequence of asynchronous minicells over the line and ~~said engineering operations channel is framed and byte oriented and is scrambled over the line~~ and wherein packet voice traffic is carried in spare capacity in said engineering operations channel; and  
~~performing synchronisation between the central station and the subscriber terminal during a period of transmission of null data on said engineering operations channel.~~